What is claimed:

1. A discharge bulb comprising:

an arc tube having a light-emitting tube portion; and

a shroud glass surrounding said arc tube in a tubular form,

wherein an inert gas and a metal halide are contained in a discharge space inside said light-emitting tube portion, the discharge space being mercury-free; and

a gas having lower thermal conductivity than air is contained in an annular space defined between said arc tube and said shroud glass.

2. The discharge bulb according to claim 1, wherein the gas contained in the annular space between the tube and the shroud glass contains not less than 50% in total of one or more of argon gas, krypton gas, and xenon gas.

3. The discharge bulb according to claim 1, wherein the gas contained in the annular space contains not less than 60% xenon gas.

4. The discharge bulb according to claim 2, wherein the gas contained in the annular space contains not less

than 60% xenon gas.

5. The discharge bulb according to claim 1, wherein a charging pressure of the gas in the annular space is 0.2 to 0.9 atm.

6. The discharge bulb according to claim 2, wherein a charging pressure of the gas in the annular space is 0.2 to 0.9 atm.

7. The discharge bulb according to claim 3, wherein a charging pressure of the gas in the annular space is 0.2 to 0.9 atm.